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**ROLL NO:24**

**BATCH : B2**

**COURSE: ML PRACTICAL**

**Assginment No. 5**

**Problem Statement :**

**Implement Naïve Bayes Classifier on Data set. CO3**

**Code :**

***import pandas as pd***

***from sklearn.model\_selection import train\_test\_split***

***from sklearn.naive\_bayes import GaussianNB***

***df = pd.read\_csv("titanic.csv")***

***print("Titanic Dataset")***

***print(df.head())***

***print("-------------------------------------------------------------")***

***df.drop(['PassengerId','Name','SibSp','Parch','Ticket','Cabin','Embarked'],axis= 'columns', inplace=True)***

***print(df.head())***

***print("-------------------------------------------------------------")***

***target = df.Survived***

***inputs = df.drop('Survived', axis = 'columns')***

***dummies = pd.get\_dummies(inputs.Sex)***

***print(dummies.head(3))***

***print("-------------------------------------------------------------")***

***inputs = pd.concat([inputs,dummies], axis='columns')***

***print(inputs.head(3))***

***print("-------------------------------------------------------------")***

***inputs.drop('Sex', axis='columns', inplace = True)***

***print(inputs.head(3))***

***print("-------------------------------------------------------------")***

***print(inputs.columns[inputs.isna().any()])***

***inputs.Age = inputs.Age.fillna(inputs.Age.mean())***

***print(inputs.head(6))***

***print("-------------------------------------------------------------")***

***X\_train, X\_test, y\_train, y\_test = train\_test\_split(inputs,target, test\_size = 0.2)***

***print("Length of X\_train : ",len(X\_train))***

***print("Length of X\_test : ",len(X\_test))***

***print("Length of inputs : ",len(inputs))***

***print("-------------------------------------------------------------")***

***model = GaussianNB()***

***model.fit(X\_train, y\_train)***

***print(model.score(X\_test,y\_test))***

***print("-------------------------------------------------------------")***

***print("X\_test values : ",X\_test[:10])***

***print()***

***print("y\_test values : ",y\_test[:10])***

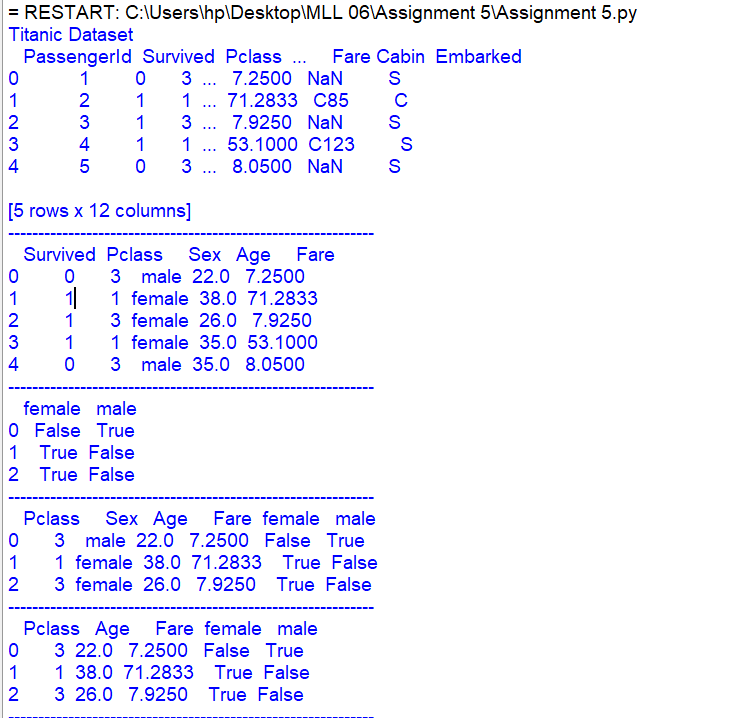
***print("-------------------------------------------------------------")***

***print("Predicted Values :",model.predict(X\_test[:10]))***

***print("Predicted Probability : ")***

***print(model.predict\_proba(X\_test[:10]))***

**Output :**

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